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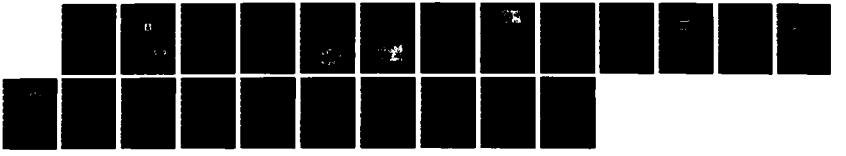

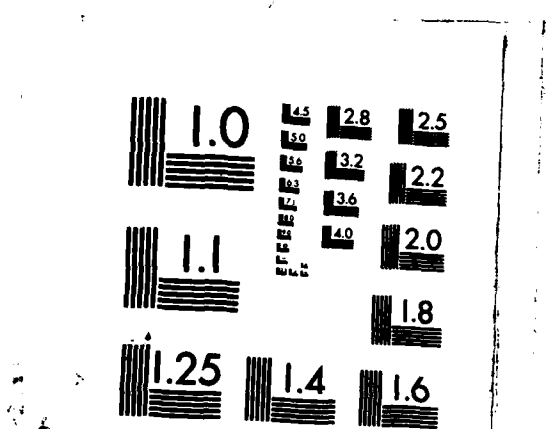

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FOREIGN TECHNOLOGY DIVISION

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MID-AIR TRAGEDY SHOCKED THE WORLD; WHAT ACTUALLY HAPPENED IS STILL A MYSTERY JUMBO AIRLINER SHOT DOWN OVER NORTH PACIFIC OCEAN

by

Hsieh Ch'u

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MID-AIR TRAGEDY SHOCKED THE WORLD; WHAT ACTUALLY HAPPENED IS STILL A MYSTERY

JUMBO AIRLINER SHOT DOWN OVER NORTH PACIFIC OCEAN

Hsieh Ch'u

The incident of the Korean Airlines Boeing 747 has left /17* in its wake many unanswered questions. The pilot that shot down the plane and all those concerned gave evasive and ambiguous descriptions of the situation. And the important evidence, the "black box", is still buried under the ocean water. It is therefore not possible to make a complete evaluation of the truth at this moment. Following is an account of the incident based on our present understanding of the events.

The Kennedy Airport in New York was ready to bid goodbye to a busy day on August 30, 1983. At 11:50 P.M. a Boeing 747-200B jumbo airliner, amid the howls emanating from its four turbo-engines that have up to 90 tons thrust capacity, slowly moved away from Gate No. 15 of the terminal, and taxied toward the takeoff line.

* Numbers in margin indicate foreign pagination.

A Regular Flight 007. Under the bright lights at the airport, this silver-colored airplane, with a wingspread of about 60 m, and exceeding 70 m in length, glittered and shimmered. The huge fuselage measured over 6 m in diameter, and had a red and a blue streak on each side as decoration. On the tall fin was painted the symbol of the South Korean Airline: a large wild goose flying inside a big circle.

During the night, however, the most distinctive feature of this airplane was its bulge on the front portion of its fuselage. This is due to its double-deck arrangement. The lower cabin was the main cabin, while the upper one consisted of the cockpit, in the front, and the special class cabin that was originally a lounge, but now accommodated 12 spacious and comfortable seats. A spiral staircase connects the two cabins. This ingenious design of an enlarged front portion of the fuselage sets the plane apart from all other large planes used for civilian or military purposes. It gives a distinctively different outline to the plane so that it can be readily recognized even when flying in a dark night.

This was a regular KAL Flight 007 leaving New York for Seoul. The takeoff time on this particular night was 35 minutes later than usual.

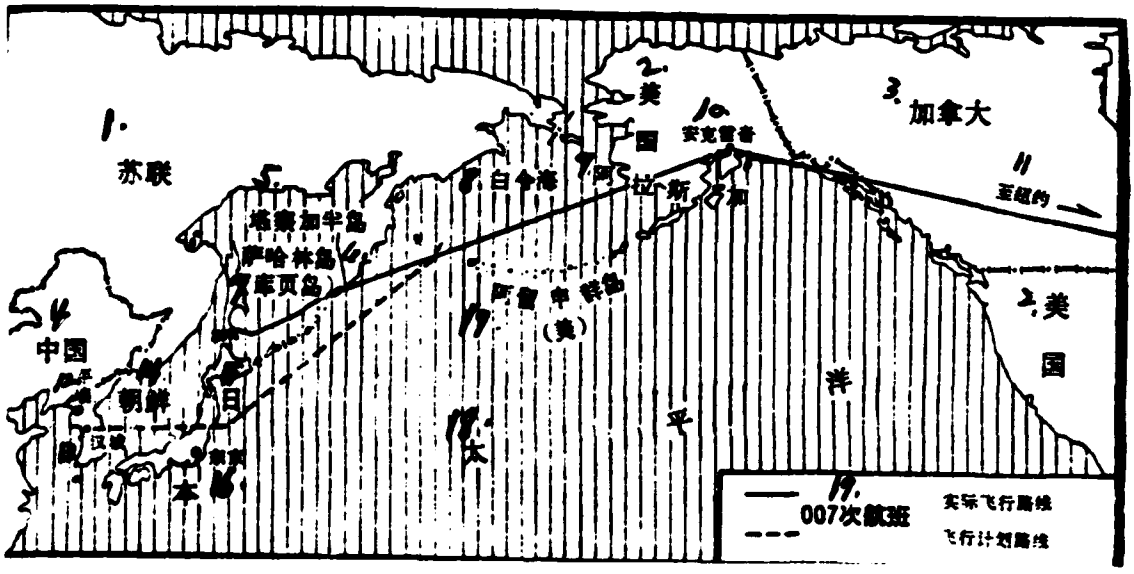
Relatives bereaving their losses after learning of the tragedy of Flight 007 at the airport in Seoul.

Boeing 747-200B is the world's largest airliner at present. Its takeoff weight is 350 tons. At that moment, there were 244 passengers aboard this South Korean plane, with room for more. While it was lifting into the cloudless night sky, the passengers in the cabin, with their seatbelts fastened, could see the colorful lights alongside the runway and the taxi-way, and on the control tower of the Kennedy Airport rapidly sink away, to be quickly merged in the sea of lights of New York City.

From New York to Anchorage . It was necessary to stop at Anchorage for fuel. The distance of the trip from New York to Anchorage was 5,470 km, and took over seven hours to cover. Inside this Flight 007, 14 female and 4 male flight attendants were courteously serving drinks to the passengers. They wore sky-blue uniforms of the airline, and were serving champagne to the 12 special class passengers. The cabin below was divided into /18 the first-class and the economy-class sections. The first-class section was located to the front of the fuselage. It had 24 seats, nearly all occupied. The economy-class section had, however, over 80 unoccupied seats. After the passengers had enjoyed their snacks and cocktail drinks, not much in the starry night sky at a height of 10,675 m could hold their interest for long. Most of the passengers took off their shoes, loosened their neckties, asked for pillows, laid back in their seats and started to doze off. The flight attendants dimmed the lights in the cabins. Only a small number of passengers were watching the movie "Man, Woman and Child" through sleepy eyes. The movie was a comedy relating to marital disputes.

This part of the flight passed in peace. At 8:30 A.M. Eastern Daylight Saving Time of the U.S.A. (8:30 P.M. Peiching time) on August 31, Flight 007 reached Anchorage. The local time was still 2:30 A. M. due to the time difference between the hour zones. Most of the people in Anchorage were in their dreamlands, except the personnel on duty at the airport.

On September 9, USSR Chief of Staff and First Deputy Minister of the Ministry of Defense admitted at a press conference that the Soviet pilot shot down the South Korean airliner that transgressed Soviet airspace, with two guided missiles by order.



Key: 1-- U.S.S.R.; 2-- U.S.A.; 3-- Canada; 4-- China;
5-- Kamchatka Peninsula; 6-- Sakhalin Island; 7-- Kuyth Island;
8-- Bering Sea; 9-- Alaska; 10-- Anchorage; 11-- to New York;
12-- Pyongyang; 13-- Seoul; 14-- Korea; 15-- Japan;
16-- Tokyo; 17-- Aleutian Islands; 18-- Pacific Ocean;
19-- Flight 007 ———— actual route
-------- scheduled route

Stopping at Anchorage Airport The airplane was to stop at Anchorage for one and a half hours. The half-sleepy passengers disembarked and stretched out their arms and legs in the chilly summer night of the Arctic Circle. Then they walked into the Anchorage International Airport lobby to have some coffee.

The ground logistic personnel fueled the plane. They connected the fuel line to the four openings on the wings, and pumped in 170,609 liters of aircraft fuel, which was to be stored in 7 tanks located in the middle portion and the two sides of the wings, and was sufficient for a flight distance of ten thousand kilometers. At the same time, the flight attendants were busy changing the flax seat covers, cleaning the ash trays and waste bags, and vacuuming the carpet in the cabins.

A new flight crew consisting of 29 members took over the duty, and embarked on the plane. They verified that service and maintenance had been properly taken care of, and signed the check-list. A family of four fortunately decided to stay in Anchorage instead of continuing the journey. The remaining 240 passengers returned to the plane. Among them, 85 were Korean, 42 were from Taiwan and Hong Kong, 27 were Japanese, 21 were from the U.S.A., 8 were from the Philippines, 4 were Canadian, 2 were from Thailand, and 51 were from other parts of Asia and Europe.

One of the American passengers was Congressman Lawrence McDonald. He was one of a group of 6 congressmen to attend a meeting in Seoul. The other congressmen took KAL Flight 015 that flew on the same day from Los Angeles to Seoul. Twenty minutes after Flight 007 landed in Anchorage, Flight 015 also stopped there to refuel. McDonald's colleagues were going to talk him into switching to their plane to fly to Seoul. However, they were unable to locate him as he stayed in the cabin and slept through the stopover, thus missing the chance to save his life. McDonald was originally booked for Flight 007 on August 28, but missed that plane because of a delay in landing of

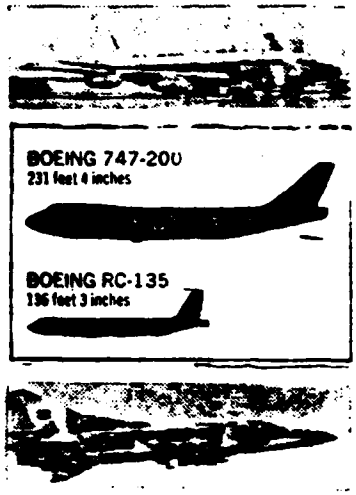
the plane he took from Atlanta owing to a storm in New York. /19
He could have taken the Pan Am airliner from New York to Seoul, but chose to wait for the next Flight 007 on the 30th because of the lower airfare. The round-trip charge for flying from New York to Seoul in this Boeing 747 airliner was $3,588 for special-class, $2,380 for first-class, and $1,200 only for economy class seats.

Flying toward Seoul at Dawn At 4:00 A.M. local time (10 P.M. Peiching time) Flight 007 took off from Anchorage and headed for Seoul. When the plane lifted toward the sky in the southwest direction, a faint morning glow was already showing at the horizon. The route from Anchorage to Seoul measured 6,114 km, and required nearly 9 hours of flight time.

The pilot of this airplane was a veteran colonel of the South Korean Air Force who had 10,547 hours of flight experience. Because of his great skills, he was chosen in 1981 to pilot the plane that took the South Korean "president" abroad for visits. At this time, he was flying along "jet route #501" which generally paralleled the Aleutian Islands. After passing a checkpoint on this route, his plane entered a route known as "#20 Red Corridor", R20 for short. He was 547 km away from Anchorage.

R20 is the route furthest to the north among the five routes leading from North America to Asia via the northern Pacific Ocean. It is also the shortest. Many passenger plane pilots prefer this route because they can save fuel. Every year, over ten thousand airplanes fly to and fro along this route. However, they do so not without any anxiety. After the route leaves the Aleutian Islands, it continues along the southern tip of the Kamchatka Peninsula and the edge of the Kuril Islands. At one place, it comes within 30 km of Soviet air space; and that is a very sensitive area in Soviet air defense. On the Korean pilot's chart, the Soviet territory and air space of the occupied regions were conspicuously marked. In addition, there were these warning remarks: Planes

entering these areas may be shot down without warning, or may veer off course owing to radio jamming. A veteran of the armed forces, the Korean pilot knew well what these lines meant.



Top to bottom: RC-135; comparison of the dimensions of Boeing 747 and RC-135; MIG-23.

Flying Off-Course Mysteriously The regular passengers were, however, unaware of all this. While this jumbo Boeing airliner was flying to Asia westwards, it decelerated from 869 km/hr to 740 km/hr thanks to a strong and steady air current that it encountered at a height of 10,065 m. Inside the cabin, the stewardesses changed into the traditional Korean costumes. Dressed in colorful long skirts and beautiful upper garments, they were serving the economy-class passengers orange juice and sandwiches. To the first-class passengers, they brought rich meals including fried meatballs, game hens, British style broth, rice and delicious desserts. After finishing their meals, the passengers went back to sleep.

The first half of the Flight 007, i.e., the first 2,896 km after leaving Anchorage, is controlled by the Anchorage Flight Information Center. The pilot is required to communicate with the

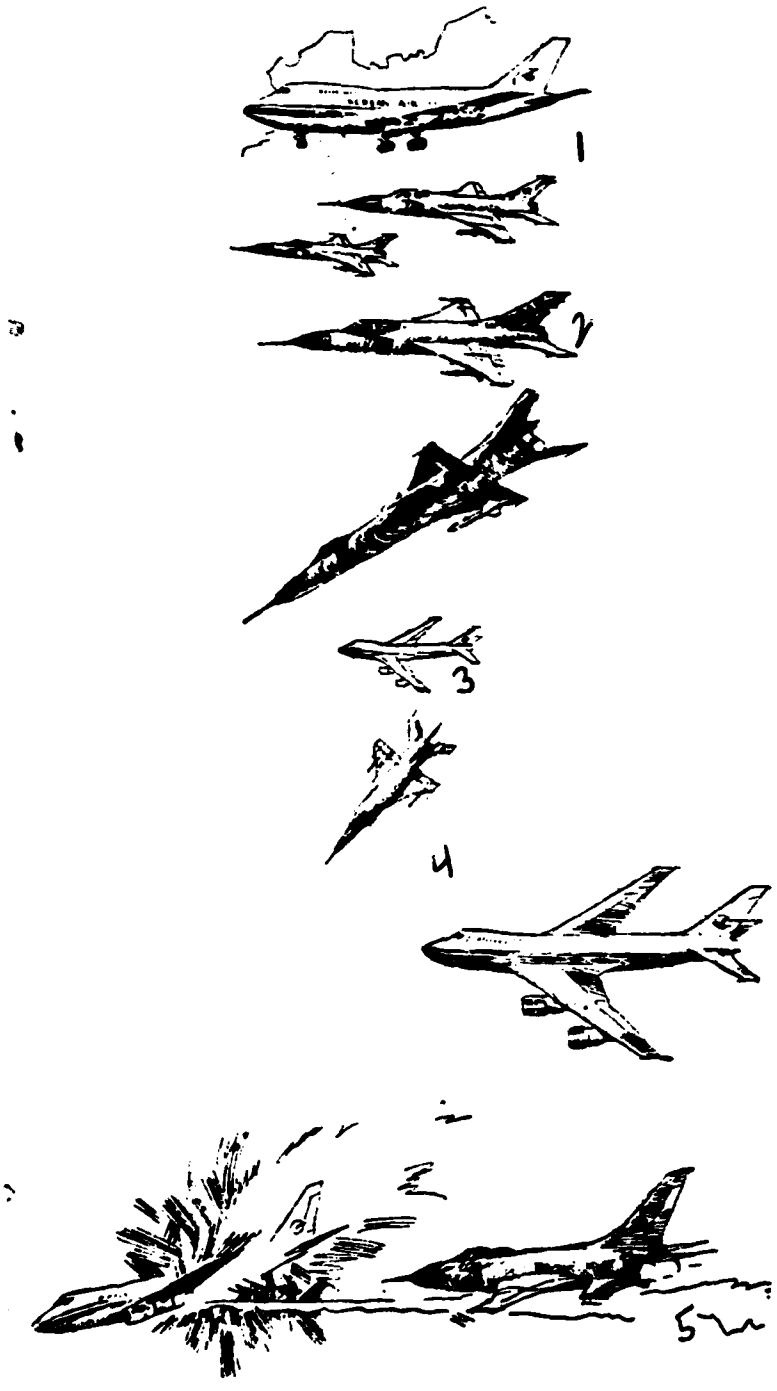
control tower at Anchorage Airport at fixed time intervals to report the flight conditions. The latter part of the flight, i.e., the 3,218 im before reaching Tokyo, is under the control of the Tokyo International Airport control tower. However, whether it be the radar at Anchorage Airport or that at Tokyo International Airport, it only has an effective range of a little over 320 km. In other words, there is a distance of several thousand kilometers over which the airplane cannot receive command and guidance signals from the control center radars. To facilitate determination of the location of the plane on the route, a navigation checkpoint is placed on R20 every several hundred kilometers. There are 12 in all. When the plane flies over these checkpoints, the pilot is to note the position of the plane relative to these points and report the results to the control tower in charge.

The Boeing 747 was equipped with three separate computerized ARINC 561 inertial navigational systems that automatically computes the velocity and position of the airplane through measurements of the plane's acceleration. Each system is equipped with its own inertial measurement devices (accelerometer and gyroscope), airborne computer, and control indicator. Before takeoff, the pilots have to input into the computer all data related to the route, including the coordinates of the positions of the checkpoints. After takeoff, the inertial navigational system and the autopilot work together to guide the plane safely along the scheduled route across the ocean and to its destination.

Despite the fact that the South Korean Boeing airliner possessed such advanced navigational equipment, it had already deviated from its correct route two hours after it left Anchorage. Its bow was deviated toward the north, and the plane flew towards Kamchatka Peninsula.

Followed by the Soviet Radar for Two and a Half Hours

Around 0:00 Peiching time on September 1, the Soviet radar on the Kamchatka Peninsula spotted an unidentified aircraft that flew across the Bering Sea toward Soviet airspace. Eight Soviet MIG-23 and Su-15 fighters immediately took off from the Petropavlovsk



The process of the South Korean airliner being shot down by Soviet interceptor aircraft.

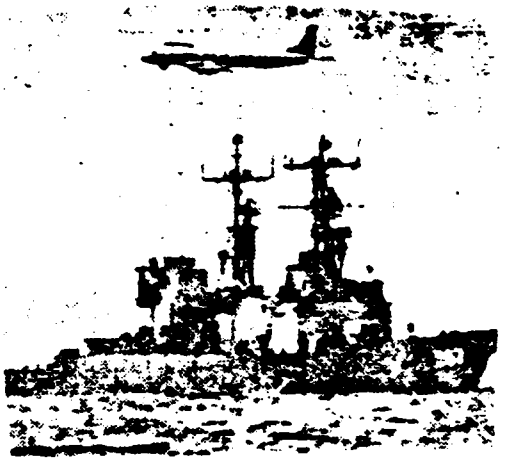
1. 22:00 Peiching time, Boeing 747 airliner left Anchorage, heading for Seoul.

2. 0:00 to 01:00 Peiching time, the airliner flew into Soviet airspace over Kamchatka Peninsula. Soviet fighters took off on emergency.

3. 02:12 Peiching time, Soviet pilot spotted the airliner.

4. 02:23 Peiching time, Boeing 747 made its last contact with the control tower at Tokyo International Airport.

5. 02:26 Peiching time, Su-15 interceptor aircraft launched a missile that hit the Boeing airliner.



U.S. destroyer hurrying to the scene of the tragedy, and Soviet aircraft watching closely. U.S. and U.S.S.R. competing aginst each other in the search for the "black box".

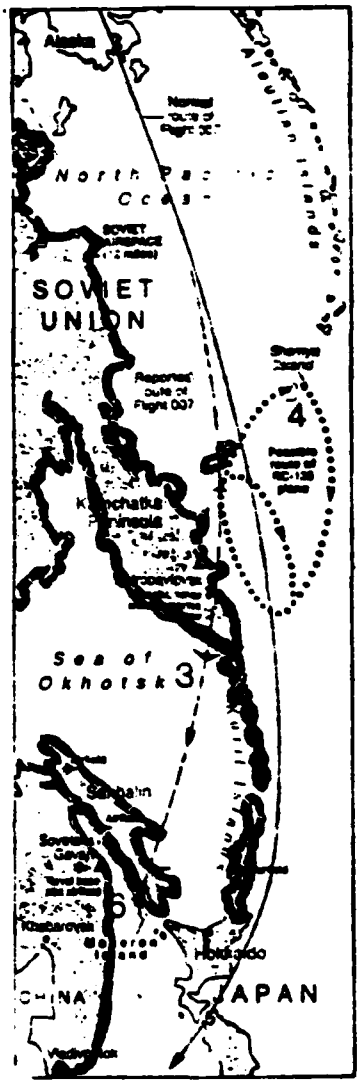
Radar station at the north most tip of Hokkaido. Japan has 27 other radar stations located in different parts of the country.

Airport located at the southern part of the peninsula to engage in interception. They were, however, unable to find the target in the dark night.

Under the continual ground radar tracking, the Boeing airliner that had transgressed Soviet airspace flew past Kamchatka Peninsula and re-entered the space over international waters in the Sea of Okhotsk. However, its direction of flight did not change. The deviation in its flight went uncorrected. Not long afterwards, it re-entered Soviet airspace above Sakhalin (the Kuyeh Island). From the Sakhalinsk Airport located at the southern tip of that island, 6 more Soviet fighters were ordered to take off. These MIG's and Su-15's were guided by ground radars in their search and interception of the intruding plane. It was clear to the radar personnel that, if the plane did not change direction, and if it was not intercepted, then it would soon fly across Sakhalin and toward Vladivostok (Haisenwei) on the mainland, the very location of the command center of the Soviet Pacific Fleet consisting of 820 battleships.

It is not hard to understand the tension experienced by the Soviets facing the intruding airplane. The regions that the off-course airplane flew past were all highly restricted military sites. Kamchatka is an important Soviet missile test site, the front-line base for Soviet strategic bombers, and the location of an important early-warning radar network. Petropavlovsk, on the east coast of the peninsula, is the main base for the 90 Soviet nuclear submarines. Not only does it provide a free outlet for Soviet fleets into the Pacific Ocean, but it is also a very good ice-free port along the Pacific Coast. The waters near Kamchatka and the Sea of Okhotsk are also retrieval sites of Soviet missile tests. /21

The importance of Sakhalin is also worth noticing. There are 4-6 air bases in the south. Hokkaido of Japan is only 43 km away across the strait. It controls the important entrance of Soviet fleets to the Pacific Ocean from the Sea of Japan. In addition, there is important radar and electronic reconnaissance and listening equipment on the island which also has a command center that



The above was taken from "News of the U.S.A." In the diagram, 3 denotes the route of the off-course airliner; 4 denotes the route taken by the U.S. RX-135 that took off from Shemya Island on a reconnaissance flight (dotted lines); 6 denotes the spot at which the airliner was shot down.

is in charge of military and intelligence activities against Japan.

Su-15 Interceptor launched two AA-3 Missiles At 2:05 A.M. Peiching time on September 1, a Su-15 interceptor pilot reported to ground command center, "I see the target". During the following

three minutes, this Soviet fighter followed and observed the South Korean airliner. He reported to the ground, "I am flying behind the target".

At 2:12 A.M., the Su-15 pilot again reported to the ground, "I see it visually and on radar". One minute later he reported, "The plane is not responding to my signals". Only Soviet planes could have been able to answer signals sent out by Su-15 interceptors. Evidently, it would not be possible for U.S.-made planes to respond to Soviet signals. Consequently, the Soviet pilot reported, "I have locked on the missiles." Weapon systems are like computers in that they also require a short warm-up period before they can function normally. The message of the pilot meant that the arrow was already fitted to the string, and ready to go.

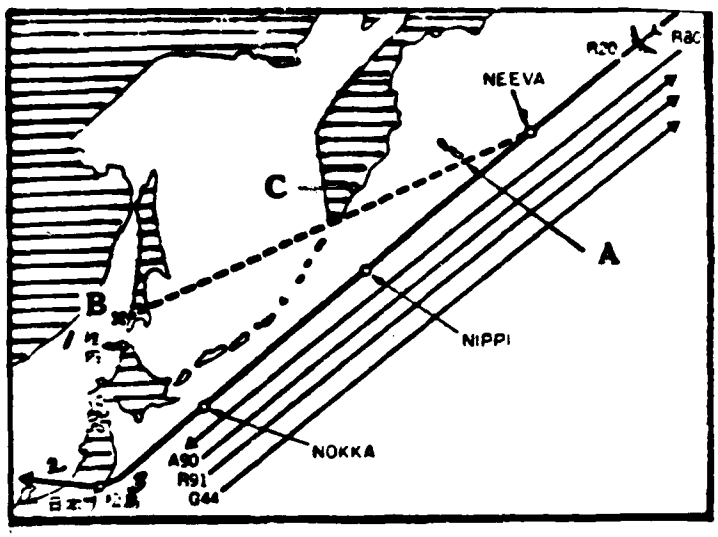
The poor, innocent passengers were totally unaware of the atrocity that lay ahead. At this moment, the stewardesses were beginning to service breakfast to those passengers who already awoke. The passengers in the first-class cabin were served grape juice and beef pudding, while the economy-class passengers had Spanish style pancakes.

No one knows if the Korean pilot was aware of the danger he was facing. But, at 2:15 A.M. he suddenly radioed the control tower in Tokyo for permission to increase the cruising height from 10,065 m to 10,675 m. Consent was given. At the same time, Japanese radars already detected the position of the South Korean airliner to be 185 km north of Hokkaido, and not 185 km south of Hokkaido as reported by the pilot. The Japanese sensed that something was wrong, but it was already too late...

At 2:26 A.M. two AA-3 air-to-air missiles were fired from underneath the wings of the Su-15 interceptor. One of these was guided by means of infra-red radiation, the other, by radar. Both raced like lightning bolts toward the huge fuselage of the Boeing airliner. At this moment, the two planes were only about 8 km apart.

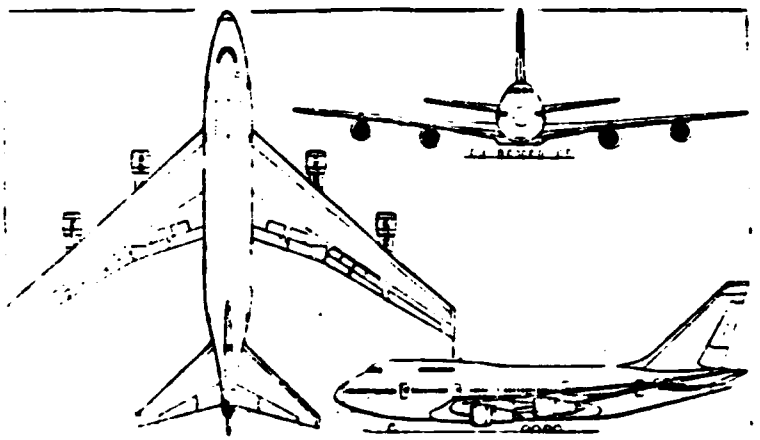
The heat-seeking guided missile apparently hit the engine of the airliner. The Su-15 pilot calmly reported to the ground, as if he had just accomplished some routine business, "The target has been destroyed".

Remains of Airliner Scattered over the Sea of Japan. In the darkness above the Sea of Japan, the shattered Boeing airliner and its panic-stricken passengers fell down from a height of ten thousand meters. At 2:27 A.M. the control tower in Tokyo received the last unfinished message from the airliner, "this is KAL Flight 007...." followed by ear-piercing loud noises; then it was silent.



Above is a schematic diagram of the five international routes commercial airliners take to fly across North Pacific Ocean. Among these, R20 comes closest to the Soviet Kamchatka Peninsula (point C indicates the location of the city Petropavlovsk on the peninsula), and runs nearly parallel with the Kuril Islands. Point A denotes the location of a high-power radio navigational station at the tip of the Aleutian Islands of U.S.A. The dotted line denotes the assumed route of the South Korean airliner which was shot down at point B.

Key: 1- Wakkanai; 2- Japan; 3- Aomori



For a description and diagrams of the South Korean Boeing 747-200B jumbo airliner that was shot down by a Su-15 interceptor aircraft, from three perspectives, refer to page 30 of the September issue of this publication. Above is a long-range Boeing 747SP, with fuselage somewhat shorter than that of Boeing 747-200B.

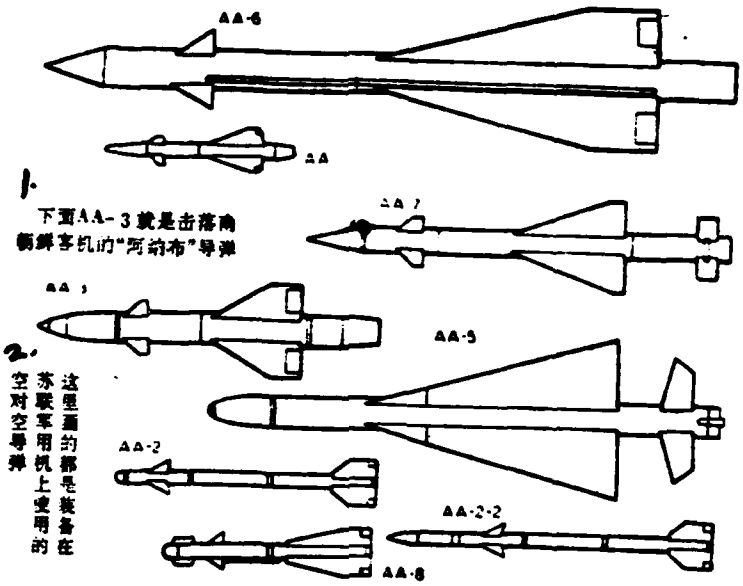
Japanese radars tracked the last part of the fatal fall of this airliner. At 2:30 A.M. Peiching time, it dropped to a height of 5,000 m, and at 2:38 A.M., the bright spot produced by it on the radar screen vanished forever. The time was 12 minutes after it was hit by the guided missile.

About 48 km west of Sakhalin Island there is a little island /2
in the Sea of Japan called the Moneron Island (Haima Island). A Japanese fishing boat was operating in the waters about 38 km northwest of that island. Suddenly, the captain and his 6 crew members heard the boom of an airplane, followed by a loud explosion. A bright orange glare lit up the sky in the southeast where the dawn was starting to break. The bright light lasted a few seconds, and was followed by lower sounds of explosion. After 5 or 6 minutes, a whiff of burning gasoline reached the boat. Most probably, all of the remains of the airliner dropped into the waters near the island.

Two Soviet fighters circled low for several minutes, trying to accurately locate where the airliner hit the waters. A waning moon hung listlessly in the duskY sky over the Sea of Japan. Visibility was low in the fog and mist that pervaded over the surface of the water. The Soviet pilots failed to pinpoint the location of the fall, but had to leave because they were running low on fuel.

Shrouded by Mystery Supporting evidence for the cause of this mid-air tragedy was provided by the radar information post located at the north-most tip of Hokkaido of Japan, as well as the 27 radar electronic listening stations in Japan. There the communications between the Soviet pilot and ground command during the process of chasing and hitting the South Korean airliner were recorded verbatim. This recording was flown from Japan to New York using a special-purpose airplane, and was played by the American representative at the U.N. Security Council emergency meeting. Finally, the Soviets had to admit that it was they that shot down the airliner.

Nevertheless, there are still many doubts about this incident that need to be cleared: 1. How was it possible for the Korean airliner that was equipped with advanced navigational systems to veer over 500 km off course and venture deep into the Soviet airspace within two and a half hours? The Soviets claim that this plane was a spy plane that intentionally flew into Soviet airspace to obtain important military information. This is firmly denied by the U.S.A. and South Korea who in turn accused the Soviets of frequently using commercial airplanes to collect intelligence. 2. Were the Soviets aware of the fact that this was a commercial airplane before they had it shot down? The Soviets claim that they were not, and that the Soviet pilot must have mistaken it for a reconnaissance plane, such as the American RC-135. The Americans used the voice recordings to show that the Soviet pilot did see the three navigational lights at the ends of the two wings and at the fin, as well as the flashing strobe light, before the attack. Military reconnaissance planes have none of these lights. The Americans also insist that the distinctive external features of the Boeing 747 are easily recognizable in in the night, and make it impossible



1- The AA-3 shown below is the very missile that hit the Korean airliner; 2-- Shown here are the air-to-air guided missiles that Soviet military planes are equipped with

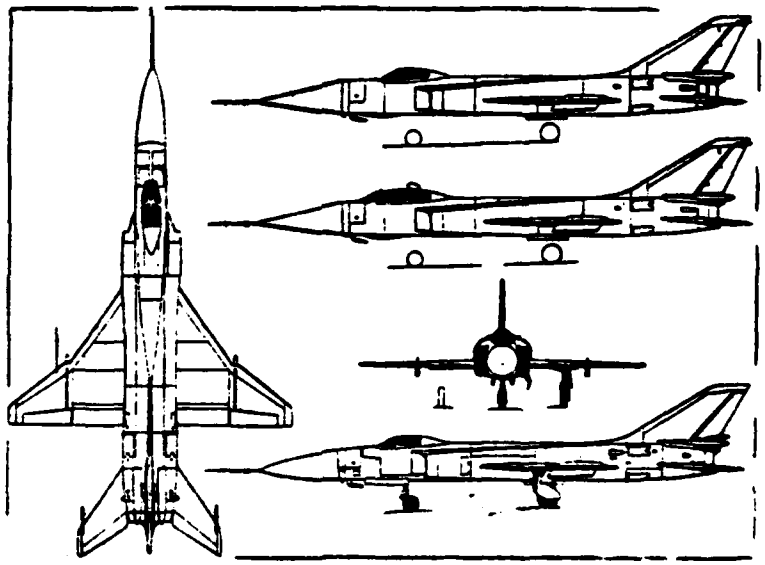


Diagram of Su-15 from three perspectives. (Side views: top is Model D, center is two-seat coach Model C, bottom is Model F.)

for the plane to be confused with a RC-135. 3. Did the Soviets send out any warnings before launching the missiles? Did the Korean pilot refuse to follow their order to land for examination, or did the fighter pilot fail to follow the international practice of issuing such warnings? The Soviets claim that the fighter plane did send out warning signals and fire tracers which were ignored by the Korean pilot. The Americans insist that no such warning was given, on the basis that the Korean pilot's report to Tokyo did not indicate any unusual happening.

It was hoped that a partial solution of these problems might be found in the two flight recorders, commonly known as "the black box", aboard the airliner. Americans, Soviets and Japanese aircraft and boats were sent out to retrieve them from the ocean floor. More than two months have passed since, and the chance of ever recovering the "black box" becomes slimmer and slimmer.

(Diagrams and captions by Nieh Ts'ung-jui and Ma Fang-ch'ing)